

Application No. 10/748,535
Amendment dated March 22, 2005
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group 2874

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Amendments to the Claims:

Please cancel claims 31-32 and 34; and amend claim 30 as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-29 (Canceled).

30. (Currently amended) A dynamically configurable retroreflector comprising:
first and second flat mirrors, fixed at a particular included angle with respect to one another, said first and second flat mirrors defining an intersection axis;

a third flat mirror mounted for rotation about a rotation axis parallel to said intersection axis; and

an actuator coupled to said third flat mirror configured to provide first and second angular positions about said rotation axis, said first angular position being such to define an included angle of approximately 90° between said first and third flat mirrors so that an incident beam is reflected off the third flat mirror and the first flat mirror to emerge along a first path that is 180° to the incident path, said second angular position being such to define an included angle of approximately 90° between said second and third flat mirrors so that the incident beam is reflected off the third flat mirror and the second flat mirror to emerge along a second path that is 180° to the incident path, and is parallel to and displaced from the first path.

Claims 31-32 (Canceled).

33. (Previously presented) A configurable retroreflector array comprising:
a support element having first and second mounting surfaces lying in planes defining an angle therebetween of approximately 90° wherein said support element is a prism having support surfaces facing away from each other;

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PATENT

first and second MEMS micromirror arrays disposed on respective first and second substrates, mounted to said first and second mounting surfaces of said support element wherein said first and second arrays are mounted with the micromirrors in the arrays disposed between said first and second substrates and said first and second mounting surfaces;

a given micromirror in said first array being associated with a plurality of M micromirrors in said second array; and

an actuator coupled to each given micromirror in said first array to provide M discrete orientations of said given micromirror, each orientation directing light along an incident direction toward a different micromirror in said second array;

said plurality of M micromirrors in said second array having respective orientations such that each respective orientation is substantially 90° to the orientation of the given mirror in said first array when the given mirror is oriented to direct light to that micromirror in said second array.

Claims 34-37 (Canceled).

38. (Previously presented) A dynamically configurable retroreflector configured to accept a beam incident along an incident path and provide a reflected beam traveling in the opposite direction along a desired one of first and second parallel paths that are 180° to the incident path, the retroreflector comprising:

first and second flat mirrors, fixed at a particular included angle with respect to one another, said first and second flat mirrors defining an intersection axis; and

a third flat mirror mounted for rotation about a rotation axis parallel to said intersection axis, said third flat mirror being rotatable between first and second angular positions about said rotation axis wherein

said first angular position defines an included angle of approximately 90° between said first and third flat mirrors so that the incident beam is reflected off the third flat mirror and the first flat mirror to emerge along the first parallel path that is 180° to the incident path, and

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said second angular position defines an included angle of approximately 90° between said second and third flat mirrors so that the incident beam is reflected off the third flat mirror and the second flat mirror to emerge along the second parallel path that is 180° to the incident path.

39. (Previously presented) A method of selectively reflecting an incident beam of light that is traveling along an incident path to a desired one of first and second parallel paths that are 180° to the incident path, the method comprising:

disposing first and second flat mirrors with a particular included angle between one another, said first and second flat mirrors defining an intersection axis;

disposing, in the incident path, a third flat mirror that rotatable about a rotation axis that is parallel to said intersection axis; and

orienting said third flat mirror at a desired one of first and second angular positions about said rotation axis, wherein

said first angular position defines an included angle of approximately 90° between said first and third flat mirrors so that the incident beam is reflected off the third flat mirror and the first flat mirror to emerge along the first parallel path that is 180° to the incident path, and

said second angular position defines an included angle of approximately 90° between said second and third flat mirrors so that the incident beam is reflected off the third flat mirror and the second flat mirror to emerge along the second parallel path that is 180° to the incident path.